PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-025319

(43)Date of publication of application : 30.01.1996

(51)Int.Cl. B27N 3/04
B27K 3/15
B32B 21/02
E04C 2/24

(21)Application number : 06-188925

(22)Date of filing : 19.07.1994

(71)Applicant : ESTATE LE-SU:KK

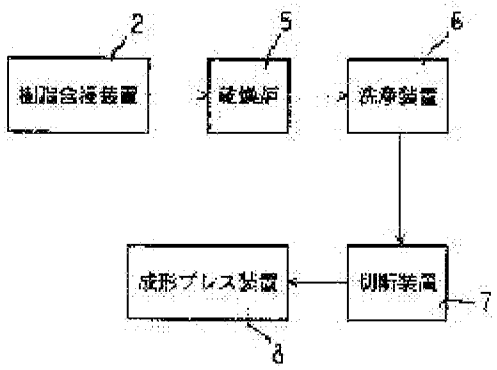
(72)Inventor : WATAYA HIROMI

(54) FIBER BOARD AND MANUFACTURE THEREOF

(57)Abstract:

PURPOSE: To obtain fiber board, which can be nailed as wood do.

CONSTITUTION: Sheet-like vegetable fiber board is fed to a resin impregnating device 2 so as to be impregnated with self-crosslinking acrylate copolymer emulsion so as to be formed under heat and pressure with a forming press device 8 in order to produce fiber board. Since very hard resin film is produced in vegetable fiber, fiber board, which does not break even when nailed, is produced. Further, since fibers are interwiningly cured with each other, nails do not come out, resulting in being most suitable for building material. The board can be manufactured at a low cost and waste article can be easily disposed by incineration.



FULL CONTENTS

[Claim(s)]
[Claim 1] The fiberboard which sinks in and fabricates self-bridge construction type acrylic ester copolymerization emulsion to the base material made from sheet-like vegetable fiber.
[Claim 2] The manufacture method of the fiberboard characterized by sinking self-bridge construction type acrylic ester copolymerization emulsion into the base material made from sheet-like vegetable fiber, carrying out heating pressurization and fabricating this base material next.

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention relates to the synthetic building materials which can carry out a nail stop, and its manufacture method.
[0002]
[Description of the Prior Art] It is conventionally used widely as the substitute from the point that veneer and plywood are inexpensive compared with native wood material.
[0003]
[Problem to be solved by the invention] However, since they are wood, even if the materials of veneer or plywood are substitutes, they are unchanging with consuming wood. Many years are taken to recover, if it is cut down, since wood requires time for growing up, and exhaustion of forest resources and environmental destruction have been a problem in recent years.
[0004] [since the plant used as the materials grows up early comparatively, vegetable fiber, such as a palm fiber, a coconut fiber, a hemp fiber, ** and a ****** fiber, a sponge gourd fiber, and a fiber of a bamboo, is hard to be drained as resources and is inexpensive but] on the other hand Even if the fiberboard manufactured from these strikes a nail, in order to escape

from it easily, the use was limited that it is hard to use as building materials.
[0005] This invention can solve the above-mentioned technical problem, and can stop it with a nail, and it is lightweight and aims at offering the fiberboard which is not easily drained as resources and the manufacture method of low cost.
[0006]
[Means for solving problem] The fiberboard of Claim 1 of this invention is sinking in and fabricating self-bridge construction type acrylic ester copolymerization emulsion to the base material made from sheet-like vegetable fiber. The process of this invention of Claim 2 sinks self-bridge construction type acrylic ester copolymerization emulsion into the base material made from sheet-like vegetable fiber, and is characterized by carrying out heating pressurization and next, fabricating this base material.
[0007]
[Function] Self-bridge construction type acrylic ester copolymerization emulsion has the operation in which adhesiveness with vegetable fiber often packs vegetable fiber into one. moreover, self-bridge construction type acrylic ester copolymerization emulsion -- the increase of heat resistance and pliability -- membranous -- and it is sticky, a very hard coat is formed on vegetable fiber, and it becomes the building materials which are not destroyed even if it strikes a nail. And the base material which the product made from the vegetable fiber with which fibers became entangled hardened stops the omission of a nail like natural wood.
[0008]
[Working example] Although this invention is hereafter explained in detail based on the work example shown in Drawings, this invention is not limited to this.
[0009] Drawing 1 is the figure showing the manufacturing process of a fiberboard. First, the metsuke weight base material 1 of 1.0-8.0kg/square meter is put into the resin sinking-in equipment 2 of drawing 2 , and resin is infiltrated.
[0010] The recycled article of fiber ********, such as a bag and a sheet, made as a material of the base material 1 used from these besides the fiber materials like a palm fiber, a coconut fiber, an oil coconut fiber, a hemp fiber, ** and a ****** fiber, a sponge gourd fiber, and the fiber of a bamboo themselves is sufficient. The case of the fiber materials like the fruit of a palm and a coconut or hemp themselves **** fiber materials with a fibrillated film machine first, and makes them a felt-like nonwoven fabric. The fruit of a coconut or a coconut is crushed by a crusher, and after breaking in pieces with a grinder further, it is ****(ed). A coconut uses the outer cover for a shell after taking main copra. Each fiber is 100-1,000mm in length, and 0.2-1.5mm in thickness, and these fibers are entangled in the non-direction in the base material. cutting in a predetermined size in the case of recycled articles, such as a bag and a sheet, -- Hata with a metsuke weight of 1.0-2.0kg/square meter -- it carries out eagerly.
[0011] As resin for fabrication, self-bridge construction type acrylic ester copolymerization

emulsion is used, and a bulk density makes it sink in at a rate of resin 0.2-0.6 to a fiber 1, and compresses. Although self-bridge construction type acrylic ester copolymerization emulsion may be used as it is, it may be diluted with water or alcohol and may be diluted to moderate concentration. Furthermore, if about 5 to 10% of melamine resin is added by a bulk density to self-bridge construction type acrylic ester copolymerization emulsion, the curvature of a fiberboard can be prevented while heat resistance improves.

[0012] A predetermined interval is set to resin sinking-in equipment 2, and two or more sets of **** iris diaphragm rolls 3 of one pair of upper and lower sides are installed within and without the resin immersion tub 4 at it. Self-bridge construction type acrylic ester copolymerization emulsion is poured into the resin immersion tub 4. And it transports compressing the band-like base material 1 with the roll 3 at the right end of Drawings, and the resin immersion tub 4 is supplied. Resin is sunk in and compressed into a base material 1 here. Next, a base material 1 is taken out from the resin immersion tub 4, it compresses further with the roll 3 at the left end of Drawings, and resin is extracted.

[0013] As resin sinking-in equipment 2, you may carry out spray paint by high-pressure air from front reverse side both sides of a base material 1 instead of the thing of the form which uses the above-mentioned **** iris diaphragm roll 3 (not shown). If a **** iris diaphragm roll is used, since a base material will be compressed, a molding base material with sufficient rigidity is obtained. If a 1 pair of up-and-down mill opening is adjusted to extensive **, the amount of sinking in of resin can be adjusted. Moreover, the intensity of a base material can be freely set up by changing the quantity of a solvent and adjusting dilution magnification.

[0014] In this way, after the cleaning equipment 6 washes the temperature in a furnace after dryness and the base material 1 which sank in resin cuts it preparatorily with cutting equipment 7 in the drying furnace 5 which was 100 degrees C, it is carried to forming press equipment 8, and carries out a heat-and-pressure press at predetermined form. At this time, forming press equipment 8 performs the heat-and-pressure press of a base material 1 for 1.5 to 10 minutes at the pressurization power of 10-50kg/square centimeter, and the temperature of 180-220 degrees C.

[0015] The fiberboards manufactured as mentioned above are 180-240cm in length, and a 90-120-cm-wide rectangle, and, as for about 500kg [square meter] /and board thickness, base material density is set to 3-15mm.

[0016]

[Effect of the Invention] Since vegetable fiber which uses this for the base material of this invention in short, such as a coconut, a coconut, or hemp, is porosity, resin sinks in well and its intensity is exceptionally strong. Moreover, since it is easy to sink in resin, manufacture is easy, and the useless article can carry out incineration disposal simply. Moreover, since it grows wild in Toyotomi and cultivation is also possible, manufacture cost of resources is

closely cheap [the materials of these vegetable fiber] infinitely. Furthermore, since it sank in and self-bridge construction type acrylic ester copolymerization emulsion was stiffened, intensity does so increase and the effect that it can moreover stop with a nail and can use widely as building materials.

[Brief Description of the Drawings]

[Drawing 1] It is the manufacturing process figure of a fiberboard.

[Drawing 2] It is the whole resin sinking-in equipment side view.

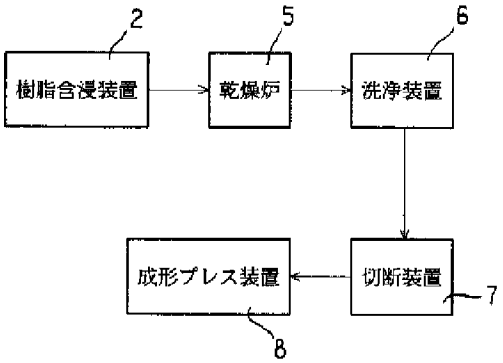
[Explanations of letters or numerals]

1 Base Material

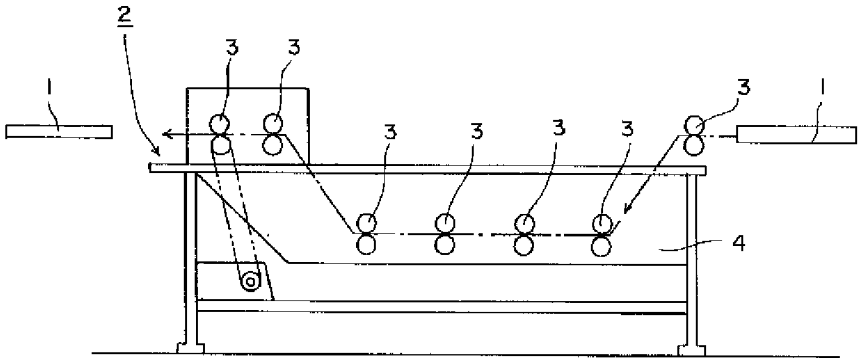
2 Resin Sinking-in Equipment

8 Forming Press Equipment

[Drawing 1]



[Drawing 2]



[Translation done.]